



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

646.9711

Job Sheet 168266



Part No: 646.9711

Job Qty: 16 ea

Part Name: Blade



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/13/17

Job Tracking No:

Created By: Linda Lacelle

Due Date: 12/1/17

Description:

Type: Stock

Note: DWG REV D2 SHEET 5 IPP REV:A NEW ISSUE 12/09/24 JFS VERIFY BY:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	16 Ea	11/30/17	11/30/17	0.00	0.00	Start Up Machining		mark 12/12/17
100	Bandsaw	16 pcs	11/30/17	11/30/17	0.00	0.50	Bandsaw1		11
110	CNC Vertical Machining	16 pcs	11/30/17	11/30/17	0.13	16.00	HAAS 1		18/01/08
120	QC	16 pcs	11/30/17	11/30/17	0.00	0.00	QC2		18/01/08
130	QC	16 pcs	11/30/17	11/30/17	0.00	0.00	QC8		18/01/08
140	Outsource	16 pcs	11/30/17	11/30/17			MEI001-VC Outsource 1		AT 18/02/04
150	Packaging	16 pcs	11/30/17	11/30/17	0.00	0.00	Packaging2		AT 18/02/04
155	QC	16 pcs	11/30/17	11/30/17	0.00	0.00	QC5		38
160	SprayPaint	16 pcs	12/1/17	12/1/17	0.00	0.53	Spray Paint		AD 18/02/04
170	QC	16 pcs	12/1/17	12/1/17	0.00	0.00	QC14		11 FEB 07 2018
180	Packaging	16 pcs	12/1/17	12/1/17	0.00	0.00	Packaging3 CK106		11 FEB 07 2018
190	QC21-SA	16 Ea	12/1/17	12/1/17	0.00	0.00	QC21		9-89

Part Op 100 - Cut Blank at 4.625"

Descriptions: 110 - 1-Machine per folio FB135

140 - HEAT TREAT AS PER DWG, SEE NOTE #3

160 - ***THIN COAT OF PRIMER*** PRIME AS PER DWG, SEE NOTE #4

B#138374

Metcal

PO 035843

DAS

21

9-89

JAN 23 2018

FEB 08 2018

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	MSTEEL-A2-B0.500X1.250 5007339-6.5 5024352-9.37	6 15.50	53	0	0

Part Specifications

Specifications could not be found.

Plex 11/14/17 7:30 AM dart.boucher.sylvie

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: _____

Part No. _____

PART NO:
Revision:
Operation:
Change No:

646.9711

Start up Operation

Mfg Date: 12/31/17
Job No: 168266

Envi

D

Equip/

Handli

M

Internal Trai

Tribal Know

Substa

Past Expiry [

Misidentifi

Past Due

OTHER: ☐

DISPOSITION

newwork
 Scrap
 as-is
 oved

AGAINST DEPARTMENT/PROCESS

Skid-tube
 Machining
 Thermoforming
 Large Fab

Cross tube
 Small Fab
 Finishing
 Composite

Water Jet
 Prod. Eng. Coord.
 Rec/Store/Packaging
 Supplier

Engineering
 Quality
 Other

QTY Effective: _____

MRB (QS1042) Approval

Disposition

Completed By

Lead hand / Supervisor
Approval VerificationQC / QA Coordinator
Approval

FAULT CATEGORY

Temperature/Cure

Set-up

BOM/Route

Broken/Damage/Defect

Inspection Incomplete/Unqualified

Contamination

Countersink

Cut Too Short

Instructions Incomplete/Unclear

Drill Holes

Power Loss/Surge

Folio/Program

Grain

Weld

Wrong Stock Pulled

Out of Sequence

Off-set

Mislabeled

Fit/Function

Misaligned/off center

Positioned Wrong

Outside Dimensions

Over/Under tolerance

Part Incorrect

Part Lost/Missing

Part Moved

Drawing

Finish

Misread

Turning Sequence

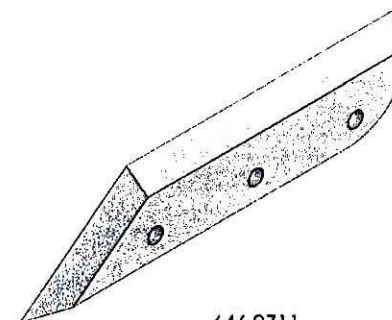
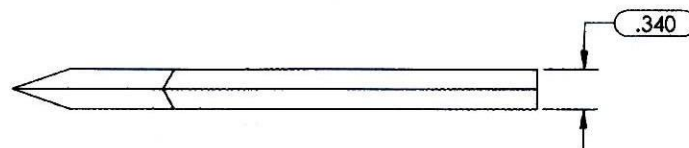
Dart Aerospace Ltd.
 1270 Aberdeen Street
 Hawkesbury, ON K64 1K7
 CANADA
 TEL.: 1 613 632-5200
 Email: sales@dartaero.com
 www.dartaerospace.com

DART
 AEROSPACE

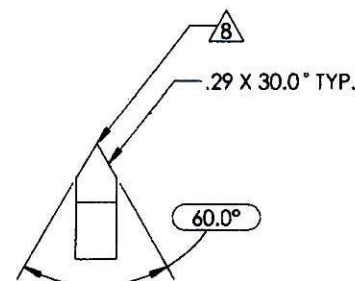
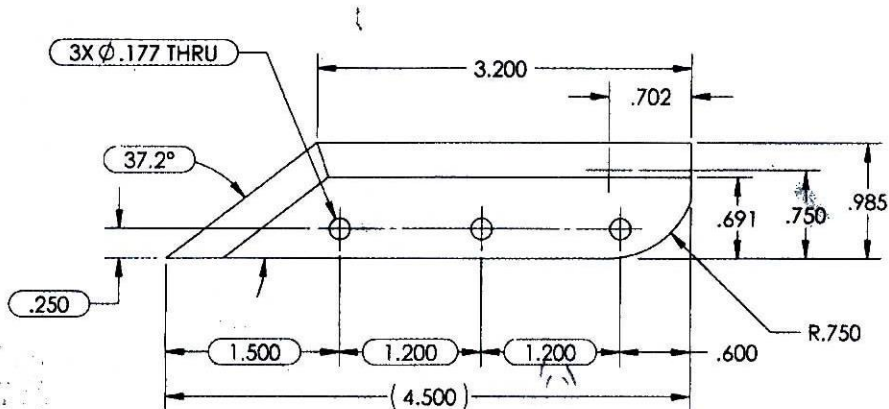
DART
 AEROSPACE
S027806

Blade

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DSA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DSA DART AEROSPACE IS PROHIBITED.



646.9711



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 168266

646.9711

DAS
30
9-89

NOV 16 2017

ORIGINAL DATE: 03-29-01		3030 ENTERPRISE CT.	
DRAWN BY: JCH/CH		SUITE A	
IN: ROSANO, P. MAYO		VISTA, CA 92081	
DRAWING APPROVAL: P. MAYO		(760)-724-5300	
03-29-01		APICAL INDUSTRIES INC.	
CONTRACT NO.		DART AEROSPACE	
CUTTER SUB ASSEMBLY			
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS ±.01; 3 PLACE DECIMALS ±.005; ANGLES ±.5°			
SRT: 8	CAGE CODE: 07M26	DWG. NO.: 646.9700	REV: D
SCALE: NONE		SHEET: 5 OF 7	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date :	Step #:	QTY Effective :	MRB (QSI042) Approval			
Description Work Order Deviation		Disposition		Completed By		
				Lead hand / Supervisor Approval Verification		
				QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY				
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	
Past Expiry Date ☐	Manufacturing Process ☐					
Misidentified ☐	Past Due ☐	OTHER : _____				

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									



Can. Aerospace Ltd.
1170 Ave Green St.
Hawkesbury, ON
K6A 1K7
Canada

Tel (615) 632-5200

PURCHASE ORDER
P0038843

Supplier: MEI001-VC
Mei Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J 5 B 8 2, Canada
Phone: 450 473 1864
Fax: 450 431 5496

PO No: PO038843

PO Date: 1/23/18

Aug 2004 2004

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone 613-392-5200

Via: Ground

Print Terms: Vol. 39

Freight Terms:

Special Comments:

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170134	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) HEAT TREATING To be sent P/O to Metcon; P/O _____ RC 40-7 2-Bore drill 3- Drill bits of Conformity is required ***NOTE*** DROP SHIP TO FINISH TO Metcon to ship directly to Groupe Attech.	Firmed	1/30/18	2 pcs	0 pcs	2 pcs	\$75.00/pcs	\$150.00
Line Item Note Parts made from 4130 steel per 118 Ship Directly to Groupe Attech										
2	170134	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) HEAT TREATING To be sent P/O to Metcon; P/O _____ RC 40-7 2-Bore drill 3- Drill bits of Conformity is required ***NOTE*** DROP SHIP TO FINISH TO Metcon to ship directly to Groupe Attech.	Firmed	1/30/18	2 pcs	0 pcs	2 pcs	\$75.00/pcs	\$150.00

Line Item Note Parts made from 4130M. Ship Directly to Group A, when

Plex 1/26/18 8:31 AM dart.lavoie.chanta

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	168231	646.3315	818-0 ELECTROLYTIC PER DW 1040-1500 HIN - 1040-1500 TO 6-6-10 ROCKWELL HANDLING	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24
			PARTIAL MADE FROM AISI A2 TOOL STEEL							
			PLEASE NOTE: DETAIL COPY REQUIRED							
9	168232	646.3316	818-0 ELECTROLYTIC PER DW 1040-1500 HIN - 1040-1500 TO 6-6-10 ROCKWELL HANDLING	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24
			PARTIAL MADE FROM AISI A2 TOOL STEEL							
			PLEASE NOTE: DETAIL COPY REQUIRED							
10	168266	646.9711	818-0 ELECTROLYTIC PER DW 1040-1500 HIN - 1040-1500 TO 6-6-10 ROCKWELL HANDLING	Firmed	1/30/18	40 pcs	0 pcs	40 pcs	\$3.32447/pcs	\$132.98
			PARTIAL MADE FROM AISI A2 TOOL STEEL							
			PLEASE NOTE: DETAIL COPY REQUIRED							
									Grand Total:	\$1,212.50
Order Notes										
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable) A022 Apical Processing A024 process certifications A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents A048 counterfeit parts avoidance, detection, investigation and disposition program A049 supplier awareness Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation										

DAS
38
9-89

METCOR INC.

550 BOULEVARD ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 6A5

Tél: 450-473-1884

Télécopieur / Fax administration: 450-491-3498

Télécopieur / Fax production: 450-491-6654

Certificat de Conformité

Certificate of Compliance

BON DE TRAVAIL CHARGEMENT

order

1386

324784

CLIENT / customer: 218

DART AEROSPACE

1271 ABERDEEN

HAWKESBURY

OX K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1271 ABERDEEN

HAWKESBURY

CA K8A 1K7

COMMANDE DU CLIENT client ref no	CLASSIFICATION PIÈCE part description	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROJETS
85843	N/A	A2		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

VAC HARDEN

HARDEN AND TEMPER

EXIGENCE / requirement	SPÉCIFICATIONS / specifications	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC	5	59 - 60 HRC

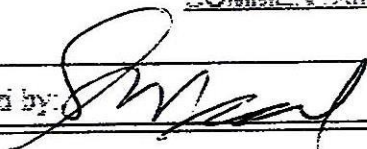
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
24	30	848.3013
		(12) 848.3013 JOB. 188220
		(12) 848.3013 JOB. 188222
		(10) 848.3314 JOB. 188230
		(10) 848.3315 JOB. 188231
		(10) 848.3316 JOB. 188232
		(10) 848.3711 JOB. 188262

* VALISE

5/2/18

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



METCOR
7

DATE: 2018-01-30

APPROUVÉ
ACCEPTED

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
324794	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
38843	N/A	A2		
<u>SPECIFICATIONS DU PROCÉDÉ</u> processing specifications				
VAC HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement	SPÉCIFICATIONS / specified		TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC		5	59 - 60 HRC
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description		
94	30	646.3013 (12) 646.3013 JOB. 168220 (12) 646.3015 JOB. 168222 (10) 646.3314 JOB. 168230 (10) 646.3315 JOB. 168231 (10) 646.3316 JOB. 168232 (40) 646.9711 JOB. 168266 1 VALISE		

COMMENTAIRES / comments

VAC HARDEN 1800F, 1:30 HR
DOUBLE TEMPER 400F, 2 HRS

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

This document and any attached documents may contain confidential or proprietary information and may be subject to export control laws and regulations. If you are not the intended recipient, you are notified that any dissemination, copying of this e-mail and any attachments thereto or use of their contents by any means whatsoever is strictly prohibited. Unauthorized export or re-export is prohibited.

Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

Ce document et les documents qui lui sont joints peuvent contenir des informations confidentielles, être soumis aux réglementations relatives au contrôle des exportations ou ayant un caractère privé. S'ils ne vous sont pas destinés, nous vous signalons qu'il est strictement interdit de les divulguer, de les reproduire ou d'en utiliser de quelque manière que ce soit le contenu. Toute exportation ou réexportation non autorisée est interdite.

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
324794	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

le contenu. Toute exportation ou réexportation non autorisée est interdite.

APPROUVÉ par / Approved by:

Jachec

ISADS: C-130
IA Technician



DATE: 2018-02-01